



Research Update is published by the Butler Center for Research to share significant scientific findings from the field of addiction treatment research.

Using Telehealth for Addiction Treatment

Telehealth involves the use of technologies such as telephone-based services, videoconferencing, texting, smartphone applications and web-based tools to provide care over a distance without requiring patients to travel to a clinic or provider's office. For some, the term **telemedicine** is considered the clinical use of technology while **telehealth** refers to a more widespread approach that includes products or services aimed directly at consumers. More recently, these terms are used interchangeably.

Telehealth Applications for Substance Use Disorders

A variety of electronic delivery methods are increasing the use of telehealth in addiction treatment and recovery including:

Telephone-based support: One of the earliest methods of delivering telehealth services, telephone-based care has been used to provide continuing care for substance use disorders.^{1,2} Study results for telephone-based continuing care generally show better results than traditional continuing care.^{3,4}

Videoconferencing: Videoconferencing occurs through secure portals on personal computers or dedicated telemedicine equipment. Studies on videoconferencing for addiction services have found equivalent results and patient satisfaction compared with care provided in person or by video.^{5,6} Meta-analyses of videoconferencing for psychiatry services have found similar positive results.^{7,8}

Texting: Texting is the transmission of short electronic messages between mobile devices. Positive results have been attributed to texting interventions using mobile device apps.⁹ Text messaging-based addiction treatment is inexpensive and has the potential to be widely accessible in real time.¹⁰

Mobile apps: A mobile app is a software application developed specifically for use on computing devices such as smartphones and tablets. An early analysis that examined several studies on mobile device use in overall health care determined it is too early to generalize the effectiveness of this technology.⁹ However, research on one smartphone app found reduced risky drinking days and higher abstinence rates than usual care.¹¹ Research on another mobile app showed reduced hazardous drinking days and drinks per day.¹²

Web-based treatment supports: Patients access web-based services over a network connection. These applications are typically "asynchronous," meaning that people can access them any time, at their convenience.

Overall, web-based telemedicine services have been found to be more effective at reducing alcohol consumed per week than comparison conditions.^{13,14}

For web-based alcohol screening, assessment, and feedback or brief intervention, the Drinker's Check-Up (DCU) has demonstrated positive results in several clinical trials.^{15,16}

The Therapeutic Education System (TES) is a web-based substance-use disorder (SUD) treatment consisting of 65 modules based on the Community Reinforcement Approach (CRA). Studies are showing that TES results are comparable to those for the CRA delivered in person by highly trained clinicians.^{17,18}

Another web-based treatment approach that has been examined in research studies is Computer-Based Treatment for Cognitive Behavioral Therapy (CBT4CBT). Research has shown positive outcomes for CBT4CBT compared to treatment as usual or treatment provided solely by clinicians.¹⁹

THE HAZELDEN BETTY FORD FOUNDATION EXPERIENCE

The Hazelden Betty Ford Foundation has been using technology to support and help our clients for many years. This has been accomplished through Hazelden Publishing's mobile apps and the MORE™ (My Ongoing Recovery Experience) program to our more recent utilization of telepsychiatry. Our Connection Recovery Coaching program will soon be enhanced through the use of a telehealth platform. The Hazelden Betty Ford Foundation sees telehealth as a means to advance our mission by increasing access to more people who need help. It also increases longer engagement along our continuum of care to improve successful outcomes.

QUESTIONS

Question: Do the terms *telehealth* and *telemedicine* have the same meaning among providers?

Response: These words are often—but not always—used interchangeably. They can have different meanings depending on who you ask. It is important to ask your doctor, insurance provider, nurse or anyone who supports your health and care exactly what they mean by the term they use.

HOW TO USE THIS INFORMATION

For those seeking recovery: Clinical research suggests several smartphone applications and web-based interventions improve treatment outcomes. Some may require a fee to access while others may be free. You may want to ask a therapist or program director about how to access them.

For service providers: Consider linking your patients with free or relatively inexpensive mobile applications and web-based services that have been shown to improve patient outcomes.

Using Telehealth for Addiction Treatment

Virtual reality: Virtual reality allows an individual to explore and interact with a computer-generated experience that simulates a real-life environment. Research using virtual reality has shown that drug-dependent people react with strong cravings to specific cues (e.g., cigarette packs, liquor bottles) as well as environments or settings (e.g., bar, party) that are associated with drug use.²⁰ The ability to bring forth feelings of cravings could mean that virtual reality has the potential to be successfully used in treatment, though this has not yet been rigorously demonstrated.²¹

Use of Telehealth in Behavioral Health Settings

Research that assessed the interest in and use of 11 telemedicine applications in a sample of 363 substance use disorders organizations in the United States found that the top three self-reported telemedicine applications being used were (1) computerized screening/assessment (44.6%), (2) telephone-based recovery supports (29.5%) and (3) telephone-based therapy (28.37%).²² The same study found that the greatest gaps between interest and actual use were for (1) texting appointment reminders (55.2% differential), (2) mobile apps for posttreatment recovery (46.6% differential) and (3) recovery support chats (46.6% differential).²²

To understand the utilization of telehealth among behavioral health providers, data were collected from 329 behavioral health provider organizations representing all 50 states. Nearly half of the respondents (48%) reported that they used telehealth for behavioral health services.²³ The most common type of telehealth format was direct videoconferencing.²³ Psychiatrists were the most common behavioral health professionals to use telehealth, followed by mental health counselors.²³

Benefits and Disadvantages of Telehealth

The chronic nature of substance use disorders calls for methods for clinicians to stay connected with patients over extended periods of time.²⁴ Telemedicine can increase access to addiction treatment services by removing the barriers of geography and stigma.²⁵

Data analyzed from state Medicaid programs revealed psychiatrists to be the behavioral health provider most commonly authorized to perform telehealth, followed by social workers and then psychologists, with addiction counselors being the least likely to have authorization.²⁶ This low representation of addiction counselors may be due to the variety of licensing tracks required and the several levels of credentials existing in each state.²⁶

Despite having great potential for assisting recovery and treating patients with substance use disorders, telemedicine is underutilized in addiction treatment centers.²²

Telemedicine is an attractive option despite the existence of potential barriers to implementation, including legal issues, financial aspects, patient privacy and health information protection.²⁷

Conclusion

The prevailing format of SUD treatment is via face-to-face therapy sessions that may be provided in combination with SUD pharmacotherapies. Telemedicine applications can potentially broaden access to addiction and recovery information, services and support.

References

- McKay, J.R., Lynch, K.G., Shepard, D.S., & Pettinati, H.M. (2005). The effectiveness of telephone-based continuing care for alcohol and cocaine dependence: 24-month outcomes. *Archives of General Psychiatry*, 62(2), 199-207.
- Young, L.B. (2012). Telemedicine interventions for substance-use disorder: A literature review. *Journal of Telemedicine and Telecare*, 18(1), 47-53.
- McKay, J.R. (2009). Continuing care research: What we've learned and where we're going. *Journal of Substance Abuse Treatment*, 36(2), 131-145.
- McKay, J.R., Van Horn, D.H., Oslin, D.W., Lynch, K.G., Ivey, M., Ward, K., ... Covello, D.M. (2010). A randomized trial of extended telephone-based continuing care for alcohol dependence: Within-treatment substance use outcomes. *Journal of Consulting and Clinical Psychology*, 78(6), 912-923.
- King, V.L., Stoller, K.B., Kidorff, M., Kindborn, K., Hursh, S., Brady, T., & Browner, R.K. (2009). Assessing the effectiveness of an internet-based videoconferencing platform for delivering intensified substance abuse counseling. *Journal of Substance Abuse Treatment*, 36(3), 331-338.
- Frueh, B.C., Henderson, S., & Myrick, H. (2005). Telehealth service delivery for persons with alcoholism. *Journal of Telemedicine and Telecare*, 11(7), 372-375.
- Hyler, S.E., Gangure, D.P., & Batchelder, S.T. (2005). Can telespsychiatry replace in-person psychiatric assessments? A review and meta-analysis of comparison studies. *CNS Spectrums*, 10(5), 403-413.
- Hilty, D.M., Ferrer, D.C., Parish, M.B., Johnston, B., Callahan, E.J., & Yellowlees, P.M. (2013). The effectiveness of telemedicine in behavioral health: A 2013 review. *Telemedicine and e-Health*, 19(6), 444-454.
- Free, C., Phillips, G., Galli, L., Watson, L., Felix, L., Edwards, P., ... Haines, A. (2013). The effectiveness of mobile-health technology-based health behaviour change or disease management interventions for health care consumers: A systematic review. *PLoS Medicine*, 10(1), e1001362.
- Keoleian, V., Polcin, D., & Galloway, G.P. (2015). Text messaging for addiction: A review. *Journal of Psychoactive Drugs*, 47(2), 158-176.
- Gustafson, D.H., McTavish, F.M., Chih, M.Y., Atwood, A.K., Johnson, R.A., Boyle, M.G., ... Shah, D. (2014). A smartphone application to support recovery from alcoholism: A randomized clinical trial. *JAMA Psychiatry*, 71(5), 566-572.
- Dulin, P.L., Gonzalez, V.M., & Campbell, K. (2014). Results of a pilot test of a self-administered smartphone-based treatment system for alcohol use disorders: Usability and early outcomes. *Substance Abuse*, 35(2), 168-175.
- Khadjesari, A., Murray, E., Hewitt, C., Hartley, S., & Godfrey, C. (2010). Can stand-alone computer-based interventions reduce alcohol consumption? A systematic review. *Addiction*, 106(2), 267-282.
- Gainesbury, S., & Blaszczynski, A. (2011). A systematic review of Internet-based therapy for the treatment of addictions. *Clinical Psychology Review*, 31(3), 490-498.
- Hester, R.K., Delaney, H.D., Campbell, W., & Handmaker, N. (2009). A web application for moderation training: Initial results of a randomized clinical trial. *Journal of Substance Abuse Treatment*, 37(3), 266-276.
- Squires, D.D., & Hester, R.K. (2004). Using technical innovations in clinical practice: The Drinker's Check-Up software program. *Journal of Clinical Psychology*, 60(2), 159-169.
- Marsch, L.A., Guarin, H., Acosta, M., Aponte-Melendez, Y., Cleland, C., Grabinski, M., ... Edwards, J. (2014). Web-based behavioral treatment for substance use disorders as a partial replacement of standard methadone maintenance treatment. *Journal of Substance Abuse Treatment*, 46(1), 43-51.
- Bickel, W.K., Marsch, L.A., Buchhalter, A.R., & Badger, G.J. (2008). Computerized behavior therapy for opioid-dependent outpatients: A randomized controlled trial. *Experimental and Clinical Psychopharmacology*, 16(2), 132-143.
- Carroll, K.M., Ball, S.A., Martino, S., Nich, C., Babuscio, T.A., Nuro, K.F., ... Rounsaville, B.J. (2008). Computer-assisted delivery of cognitive-behavioral therapy for addiction: A randomized trial of CBT4CBT. *American Journal of Psychiatry*, 165(7), 881-888.
- Bordnick, P.S., Carter, B.L., & Traylor, A.C. (2011). What virtual reality research in addictions can tell us about the future of obesity assessment and treatment. *Journal of Diabetes Science and Technology*, 5(2), 265-271.
- Freeman, D., Reeve, S., Robinson, A., Ehlers, A., Clark, D., Spanlang, B., & Slater, M. (2017). Virtual reality in the assessment, understanding and treatment of mental health disorders. *Psychological Medicine*, 47(14), 2393-2400.
- Molfenter, T., Brown, R., O'Neill, A., Kopetsky, E., & Toy, A. (2018). Use of telemedicine in addiction treatment: Current practices and organizational implementation characteristics. *International Journal of Telemedicine and Applications*, Volume 2018, Article ID. 3932643.
- Mace, S., Boccanfelli, A., & Dormond, M. (2018). The use of telehealth within behavioral health settings: Utilization, opportunities and challenges. Retrieved from behavioralhealthworkforce.org/wp-content/uploads/2018/05/Telehealth-Full-Paper_5.17.18-clean.pdf
- Molfenter, T., Boyle, M., Holloway, D., & Zwick, J. (2015). Trends in telemedicine use in addiction treatment. *Addiction Science & Clinical Practice*, 10(14).
- Baca, C.T., Alverson, D.C., Manuel, J.K., & Blackwell, G.L. (2007). Telecounseling in rural areas for alcohol problems. *Alcoholism Treatment Quarterly*, 25(4), 31-45.
- Page, C., Beck, A.J., & Buche, J. (2017). An analysis of behavioral telehealth authorization in scopes of practice. Retrieved from behavioralhealthworkforce.org/wp-content/uploads/2017/11/Y2FA3P1_Telehealth_Full-Report.pdf
- Olson, C.A., & Thomas, J.F. (2017). Telehealth: No longer an idea for the future. *Advances in Pediatrics*, 64(1), 347-370.